Candidate's name ……..…….

Signature	Stream

545/1

CHEMISRY

Paper 1

March 2025

2 hours

CHEMISTRY CONNECT

Uganda certificate of education

MID TERM I ASSESSMENT

S4 CHEMISTRY

Paper 1

(Theory)

2hours

INSTRUCTIONS TO LEARNERS

*This paper consists of **two** sections; **A** and **B***

*It has **six** examination items*

*Section **A** has **two** compulsory items*

*Section **B** has **two** parts; **I** and **II**. Answer **one** item from each part*

*Answer **four** items in all*

*Answers to section **A** **must** be written in spaces provided while this of section **B** **must** be written on answer booklets or sheets provided*

*Any additional items answered will **not** be scored.*

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SECTION A

*Answer **both** items from this section in the spaces provided.*

Item 1:

Miss. Kayi, relocated into Busia town, being new in the area, resorted in buying water from one of the local water supplier for her home laundry activity. While washing, she realized that all the white clothes hanged on a wire, were stained brown even after several rinse with the detergent. This left her frustrated with what was wrong with the water, and she has approached you for some advice.

Task:

As a chemistry student

a) Explain the mistake she made while choosing the product.

b) Guide Miss. Kayi to understand how the product works.

c) Advice Miss. Kayi on the challenges associated with the long –term use of the product.

ITEM 2:

A metal recycling company aims to purify scrap copper through electrolysis. Instead of using copper electrodes, the company uses graphite electrodes. The electrolyte used in the process is a solution of copper (II)sulphate. After running the process for a while, workers notice changes occurring at both electrodes.

The company is seeking expert advice to understand what happened during electrolysis and how it affects the materials used and the surrounding environment.

Task:

As a chemistry student,

a) Assess the products and categorize them at;

i) Anode

_____

_____

_____

ii) Cathode

_____

_____

_____

b) Advise the company on the appropriateness of the products formed at the different electrodes.

_____

_____

_____

_____

_____

_____

c) Identify one use of the product formed at each electrode.

_____

_____

_____

d) What challenges are associated with the use of the use of the materials involved in the process and how can they be avoided?

_____

_____

SECTION B

Part 1

*Answer **one** item from this part in the booklet(s) provided.*

Item 3:

In the small town of Agroville, farmers produce large amounts of agricultural waste, such as animal manure and crop residues, which are often left to rot in the open. This has led to foul odors, an increase in pests, and the spread of diseases. Additionally, the town faces a fuel shortage, forcing families to rely on expensive and unsustainable charcoal for cooking. The community is in search of an affordable and environmentally friendly solution to address these challenges.

Task: As a chemistry expert, make a write up to help the community solve the problem at hand.

Item 4:

In some hills of south western Uganda are found to contain significant iron deposits. An investor wants to set up an iron and steel rolling factory to tap into the opportunity. The local leaders are debating about the project. However, they seem not to understand how iron can be obtained from its raw materials and consequently its benefits.

As a Student with the knowledge of chemistry, the residents are confident that you can provide the necessary information.

TASK

Prepare a presentation which you will use upon invitation.

Part II

Answer one item from this part in the answer booklets provided.

Item 5:
Mondo, the cattle keeper, grazes his cows on community land. During the dry season, he practices bush burning and also takes his cows to drink water from the nearby community water source. His practices have raised concern from the community. The area chairperson has organized a meeting to create awareness for Mondo and others who perform such practices.
Task:
As a learner of Chemistry, prepare a write – up message that will be delivered during the meeting.

Item 6:
In her school holidays, Florence visited her aunt who works in one of the stone quarries in the area. Florence noted that explosives were being used to blast the big lumps of rocks to form small stones (aggregates) and there was a lot of dust rising into the atmosphere as shown below.

Besides the social benefits, Florence was much concerned about what would happen to the site and community at large, if the activity continued over time.

Task:
As a learner of Chemistry, prepare a write – up to respond to Florence's concern.

****END****

'ENJOY THE BEAUTY OF CHEMISTRY'

You are what you always think about!